

# ADAPTIVE COLLISION LOAD PATH MODIFICATION SYSTEM FOR VEHICLE COLLISION COMPATIBILITY

## Abstract

An adaptive collision load path modification system (10) for a vehicle (12) includes multiple object detection sensors (14) that generate object detection signals. The system (10) may include a structural stiffness-adjusting device (46), which is coupled within a frame rail (58, 62) of the vehicle (12), and in addition or alternatively a tire deflation apparatus (48). A controller (18) is coupled to the object detection sensors (14) and through use of the structural stiffness-adjusting device (46) or the tire deflation apparatus (48) adjusts collision load paths of the vehicle (12) in response to the object detection signals. In so doing, the controller (18) may activate the structural stiffness-adjusting device (46) and deflate a tire (76) of the vehicle (12).